

## Auroral displays of July, 1892—Continued.

Date.	Station.	Extent of display.		Remarks.
		Azimuth.	Altitude.	
16	Eastport, Me.....	.....	To s. of zenith.	Brilliant flashes of white light, with pink and violet tints in north.
16	Portland, Me.....	Cov'd sky.	.....	Very brilliant red in west, green in east, and white in south.
16	Manchester, N. H.....	.....	Zenith	Brilliant red in northwest, extended and changed to pink, yellow, and green.
16	Boston, Mass.....	90 to 270	35 s. of zenith.	Yellow arch formed south of zenith, light changed to green and dark red.
16	Woods Holl, Mass.....	100 to 260	80	Narrow band of white light.
16	Block Island, R. I.....	.....	.....	Bright beams, with motion from west to east.
16	Narragansett Pier, R. I.....	In north.	.....	White arch, with beams to zenith.
16	New Haven, Conn.....	.....	Zenith	Pale green and white streamers in north; arch formed, crossing the zenith.
16-17	Buffalo, N. Y.....	In north.	Zenith	Arch to zenith, with "merry dancers."
16	Ithaca, N. Y.....	140 to 220	8	Low arch. Northern sky a blaze of red light, flashing to zenith.
16	Oswego, N. Y.....	.....	30	Double arch, with waves of pink light to within 20° of southern horizon.
16	Rochester, N. Y.....	45 to 110	Zenith	Three bands of light, changing from pink to green.
16	Wedgwood, N. Y.....	95 to 275	30 s. of zenith.	Diffused rosy light.
16	Atlantic City, N. J.....	130 to 255	25	Sheets and streaks of light of steel blue, purple, and red.
16	Bridgeton, N. J.....	135 to 225	.....	White light, with "merry dancers."
16	Erie, Pa.....	90 to 270	45	Straw-colored light, with flashes of light to 60°.
16	Harrisburg, Pa.....	In north.	.....	Beams and flashes of light to zenith.
16	Phoenixville, Pa.....	.....	.....	Streamers, waves, and bands, with movement from east to north-west; colors crimson, green, and gray.
16	Philadelphia, Pa.....	In north.	.....	Billows and beams of straw, green, and pale red colors almost to zenith.
16	Pittsburg, Pa.....	115 to 200	20	Beams, scarlet, green, and yellow.
16	Baltimore, Md.....	130 to 190	25	An arch, with flashes of red light.
16	Washington, D. C.....	Cov'd 90	20	Rainbow-like arch, with occasional streamers.
16	Big Stone Gap, Va.....	In north.	.....	Light red sheet, with white bands.
16	Louisburg, N. C.....	In north.	.....	White, rose, and orange, fading into gray.
16	Cincinnati, Ohio.....	.....	60	Arch, with beams. Deep red, changing to yellow and green.
16	Cleveland, Ohio.....	Cov'd 180	Zenith	Arch, with white bands.
16	Grand Rapids, Ohio.....	In north.	45	Arch, with white light.
16	Chicago, Ill.....	120 to 165	15	Arch.
16	Evansville, Ill.....	140 to 220	15	Arch, with flashes of light.
16	Alpena, Mich.....	.....	.....	Sky nearly covered with colored lights.
16-17	Cheboygan, Mich.....	135 to 195	70	Colored streamers.

## Auroral displays of July, 1892—Continued.

Date.	Station.	Extent of display.		Remarks.
		Azimuth.	Altitude.	
16	Detroit, Mich.....	90 to 270	70	Beams of green, pink, and white, with movement from e. to w.
16	Grand Haven, Mich.....	90 to 270	10	Incomplete corona formed in zenith.
16	Manistee, Mich.....	60 to 170	70	Two arches, with beams to zenith, and pillars of light.
16-17	Marquette, Mich.....	90 to 270	25	Corona formed in zenith, with streamers of various colors.
16-17	Port Huron, Mich.....	In north.	.....	Bright beams of yellow and green to zenith.
16	Sault Ste. Marie, Mich.....	.....	.....	Sky covered with waves of colored light, "merry dancers." Telegraph instruments burned out.
16	La Crosse, Wis.....	100 to 255	40	An arch over a curtain-like appearance, with "merry dancers" to zenith.
16	Milwaukee, Wis.....	In n. & ne.	75	Immense fan-shaped light, with streamers. An arch formed, with waves of light.
16	Duluth, Minn.....	Cov'd 160	Zenith	Beams and waves of diffused light to zenith.
16	Moorhead, Minn.....	.....	Zenith	A cone-shaped formation, presenting prismatic colors, extended to zenith, and shot out shafts of light nearly to horizon.
16	Red Wing, Minn.....	.....	20	An arch, with "merry dancers."
16	Saint Vincent, Minn.....	.....	45	Streamers of rosy red.
16	Davenport, Iowa.....	155 to 220	60	Arch, with pale yellow and rosy red colors.
16	Des Moines, Iowa.....	.....	15	Arch, with brilliant streamers of green, orange, and purple.
16	Dubuque, Iowa.....	.....	35	Flashes and slender beams of light, followed by arch.
16	Keokuk, Iowa.....	150 to 230	75	Arch, changing in color from white to red and green.
16-17	Kansas City, Mo.....	145 to 225	18	Bright white light, with slender beams.
16-17	Bismarck, N. Dak.....	170 to 250	30	Irregular pale beams shot upward and from east to west, and formed corona in zenith.
16	Fort Buford, N. Dak.....	180 to 225	.....	Diffused light formed into an arch.
16	Huron, S. Dak.....	.....	Nearly to zenith.	Beams of light in north and north-east.
16	Yankton, S. Dak.....	150 to 220	20	Arch, with pale beams of light.
16	Omaha, Nebr.....	In north.	20	Arch, with red and white streamers.
16	Miles City, Mont.....	.....	35	Arch of pale blue, with "merry dancers."
20	Manchester, N. H.....	135 to 215	70	Rays of pink, yellow, and green.
20	Oswego, N. Y.....	In north.	35	Faint arch of whitish color.
20	Erie, Pa.....	Cov'd 135	45	Arch.
20	Sault Ste. Marie, Mich.....	180 to 270	80	Green colored arch, with flashing beams of light.
20	Bismarck, N. Dak.....	160 to 250	30	Arch.
24	Oswego, N. Y.....	90 to 225	40	Arch, with streamers.
25	Alpena, Mich.....	135 to 270	15	Arch, with rose-colored beams.
25	Saint Paul, Minn.....	.....	40	Pale light, with purple beams.
25	Omaha, Nebr.....	160 to 230	40	Arch, with beams of light.
28	Saint Paul, Minn.....	160 to 200	35	Pale light, with numerous slender beams.

## STATE WEATHER SERVICES.

[Temperature in degrees Fahrenheit; precipitation, including melted snow, in inches and hundredths.]

The following extracts and summaries are republished from reports for July, 1892, of the directors of the various state weather services:

## ALABAMA.

**Temperature.**—The mean was 1.7 below the normal; maximum, 98, at Brewton and Daphne, 30th; minimum, 60, at Healing Springs, 21st; greatest monthly range, 36, at Healing Springs; least monthly range, 20, at Citronelle.

**Precipitation.**—The average was 4.29 above the normal; greatest monthly, 14.43, at Mobile; least monthly, 3.38, at Bermuda.—*P. H. Mell, Observer, Weather Bureau, Auburn, director.*

## ARIZONA.

**Temperature.**—Maximum, 118, at Fort Mohave, 1st; minimum, 44, at Holbrook, 3d and 4th; greatest monthly range, 56, at Reymert; least monthly range, 27, at Dos Cabezas.

**Precipitation.**—Greatest monthly, 6.15, at Payson; least monthly, 0.00, at Red Rock, Fort Mohave, Rancho del Pueblo, and Yuma.

**Wind.**—Prevailing direction, southwest.—*J. C. Hayden, Observer, Weather Bureau, Tucson, director.*

## ARKANSAS.

**Temperature.**—The mean was 1.5 below the normal; maximum, 104, at Keesees Ferry, 20th and 21st; minimum, 52, at Fayetteville, 4th; greatest monthly range, 44, at Rogers; least monthly range, 24, at Greenville, Miss.

**Precipitation.**—The average was 0.09 below the normal; greatest monthly, 9.25, at Greenville, Miss.; least monthly, 1.09, at Madding.

**Wind.**—Prevailing direction, south.—*M. F. Locke, Commissioner of Agriculture, Little Rock, director; F. H. Clarke, Observer, Weather Bureau, assistant.*

## CALIFORNIA.

**Temperature.**—Maximum, 114, at Lagrange, 31st; minimum, 34, at Yreka, 11th; greatest monthly range, 68, at San Ardo; least monthly range, 35, at Sweetwater Dam.

**Precipitation.**—Greatest monthly, 0.67, at Crescent City; least monthly, 0.00, at a number of places.

**Wind.**—Prevailing direction, west.—*J. A. Barwick, Observer, Weather Bureau, Sacramento, director.*

## COLORADO.

**Temperature.**—The mean was normal; maximum, 109, at Orchard, 21st; minimum, 22, at Breckenridge, 2d; greatest monthly range, 66, at Orchard; least monthly range, 42, at Como, Georgetown, and Livermore.

**Wind.**—Prevailing direction, west.—*W. S. Miller, Observer, Weather Bureau, Denver, director.*

## FLORIDA.

**Temperature.**—Maximum, 100, at Mullet Key, 4th, 15th, 24th, and 25th; minimum, 65, at Archer, 2d, 4th, 5th, and 6th; greatest monthly range, 32, at Archer; least monthly range, 16, at Merritts Island.

**Precipitation.**—Greatest monthly, 17.40, at Saint Andrews; least monthly, 0.08, at Jupiter.

**Wind.**—Prevailing direction, southeast.—*E. R. Demain, Observer, Weather Bureau, Jacksonville, director.*

#### GEORGIA.

**Temperature.**—Maximum, 102, at Waynesboro, 29th and 30th; minimum, 50, at Macon, 8th; greatest monthly range, 46, at Macon; least monthly range, 21, at Morgan.

**Precipitation.**—Greatest monthly, 11.76, at Eastman; least monthly, 2.10, at Columbus.

**Wind.**—Prevailing direction, southwest.—*Park Morrill, Local Forecast Official, Weather Bureau, Atlanta, director.*

#### IDAHO.

**Temperature.**—Maximum, 109, at Boise Barracks, 31st; minimum, 27, at Lake, 14th; greatest monthly range, 67, at Boise Barracks; least monthly range, 37, at Kootenai.

**Precipitation.**—Greatest monthly, 0.41, at Kootenai; least monthly, trace, at Lake and Martin.

**Wind.**—Prevailing direction, south.—*J. H. Smith, Observer, Weather Bureau, Idaho Falls, director.*

#### ILLINOIS.

**Temperature.**—The mean was 1.6 below the normal of the last 17 years; maximum, 107, at McLeansboro, 25th; minimum, 44, at Philo, 1st.

**Precipitation.**—The average was 0.73 above the normal of the last 14 years; greatest monthly, 6.49, at Pana; least monthly, 1.35, at Watseka.

**Wind.**—Prevailing direction, southwest.—*John Craig, Observer, Weather Bureau, Springfield, director.*

#### INDIANA.

**Temperature.**—The mean was 0.4 above the normal; maximum, 100, at Muncie, 26th, and at Angola, 24th; minimum, 43, at Cambridge City, 1st and 4th; greatest monthly range, 54, at Point Isabel; least monthly range, 28, at Butlerville.

**Precipitation.**—The average was 0.12 above the normal; greatest monthly, 4.92, at Lafayette; least monthly, 1.52, at Vevay.

**Wind.**—Prevailing direction, southwest.—*Prof. H. A. Huston, Lafayette, director; C. F. R. Wappenhans, Local Forecast Official, Weather Bureau, assistant.*

#### IOWA WEATHER AND CROP SERVICE.

**Temperature.**—The mean was slightly below the normal; maximum, 104, at Glenwood, 11th; minimum, 38, at Centerville, 1st; greatest monthly range, 58, at Centerville; least monthly range, 33, at Vinton.

**Precipitation.**—The average was about 1.00 above the normal; greatest monthly, 12.86, at Corydon; least monthly, 1.71, at Carroll.

**Wind.**—Prevailing direction, southeast.—*J. R. Sage, Des Moines, director; G. M. Chappel, Local Forecast Official, Weather Bureau, assistant.*

#### KANSAS.

**Temperature.**—The mean was 1.5 below the normal; maximum, 108, at Gibson, 23d, and at Gove City, 22d; minimum, 41, at Shields, 29th; greatest monthly range, 64, at Lakin; least monthly range, 36, at Altoona.

**Precipitation.**—The average was 0.15 below the normal; greatest monthly, 6.51, at Belleville; least monthly, 0.66, at Tribune.

**Wind.**—Prevailing direction, south.—*Prof. J. T. Lovewell, Topeka, director; T. B. Jennings, Observer, Weather Bureau, assistant.*

#### KENTUCKY.

**Temperature.**—The mean was 2.0 below the normal; maximum, 100, at Louisa and Central City, 25th; minimum, 48, at Harrodsburg, 5th; greatest monthly range, 51, at Harrodsburg; least monthly range, 26, at South Fork.

**Precipitation.**—The average was 0.50 below the normal; greatest monthly, 6.22, at Lexington; least monthly, 0.37, at Georgetown.

**Wind.**—Prevailing direction, southwest.—*Frank Burke, Observer, Weather Bureau, Louisville, director.*

#### LOUISIANA.

**Temperature.**—The mean was 2.3 below the normal; maximum, 101, at Schriever, 3d; minimum, 56, at Minden, 9th, and at Lake Charles, 31st; greatest monthly range, 42, at Minden; least monthly range, 20, at State Experiment Station.

**Precipitation.**—The average was 4.50 above the normal; greatest monthly, 23.08, at Jeanerette; least monthly, 1.75, at Girard.

**Wind.**—Prevailing direction, south.—*George E. Hunt, Local Forecast Official, Weather Bureau, New Orleans, director.*

#### MARYLAND.

**Temperature.**—Maximum, 102, at Kirkwood, Del., 27th and 28th; minimum, 50, at Boettcherville, 19th; greatest monthly range, 50, at Boettcherville; least monthly range, 27, at Solomons.

**Precipitation.**—Greatest monthly, 5.34, at Mount Saint Marys; least monthly, 1.10, at Boettcherville.

**Wind.**—Prevailing direction, southwest.—*Dr. William B. Clark, Johns Hopkins University, Baltimore, director; Prof. Milton Whitney, Maryland*

*Agricultural College, secretary and treasurer; C. P. Cronk, Observer, Weather Bureau, in charge.*

#### MICHIGAN.

**Temperature.**—The mean was 1.3 above the normal; maximum, 101, at Berlin, 26th; minimum, 32, at Hart, 3d; greatest monthly range, 61, at Gladwin and Evart; least monthly range, 36, at Lake City and Arbelia.

**Precipitation.**—The average was 0.30 above the normal; greatest monthly, 5.17, at Noble; least monthly, 1.10, at Evart.

**Wind.**—Prevailing direction, southwest.—*E. A. Evans, Local Forecast Official, Weather Bureau, Detroit, director.*

#### MINNESOTA.

**Temperature.**—Maximum, 102, at Kinbrae, 18th; minimum, 36, at Eagle Bend, 1st; greatest monthly range, 57, at Kinbrae; least monthly range, 31, at Pine River Dam.

**Precipitation.**—Greatest monthly, 12.01, at Minneapolis; least monthly, 1.25, at Ash Creek.

**Wind.**—Prevailing direction, south.—*J. H. Harmon, Observer, Weather Bureau, Minneapolis, director.*

#### MISSISSIPPI.

**Temperature.**—The mean was 1.6 below the normal; maximum, 103, at Columbus, 31st; minimum, 60, at Waynesboro, 10th and 11th; greatest monthly range, 37, at Columbus; least monthly range, 21, at Ship Island.

**Precipitation.**—The average was 6.06 above the normal; greatest monthly, 23.87, at Macon; least monthly, 5.28, at Batesville.

**Wind.**—Prevailing direction, southwest.—*R. B. Fulton, Observer, Weather Bureau, University, director.*

#### MISSOURI.

**Temperature.**—The mean was 1.7 below the normal; maximum, 101, at Langdon, 20th, and at Pickering, 12th; minimum, 45, at Adrian, 4th, and at Columbia, 12th; greatest monthly range, 54, at Princeton; least monthly range, 28, at Fox Creek.

**Precipitation.**—The average was 1.22 above the normal; greatest monthly, 9.05, at Mexico; least monthly, 1.73, at Cairo, Ill.

**Wind.**—Prevailing direction, southwest.—*Levi Chubbuck, Secretary of State Board of Agriculture, Columbia, director; H. A. McNally, Observer, Weather Bureau, assistant.*

#### MONTANA.

**Temperature.**—Maximum, 112, at Glendive, 19th; minimum, 25, at Elk Park, 23d; greatest monthly range, 71, at Bozeman; least monthly range, 44, at Dearborn Canyon.

**Precipitation.**—Greatest monthly, 4.49, at Fort Buford, N. Dak.; least monthly, 0.19, at Horr.

**Wind.**—Prevailing direction, west.—*E. J. Glass, Observer, Weather Bureau, Helena, director.*

#### NEBRASKA.

**Temperature.**—Maximum, 113, at Thedford, 19th; minimum, 40, at Lexington, 2d; greatest monthly range, 72, at Lexington; least monthly range, 31, at Agee.

**Precipitation.**—Greatest monthly, 5.75, at Orleans; least monthly, 0.01, at Dunning.

**Wind.**—Prevailing direction, southeast.—*Prof. Goodwin D. Swezey, Crete, director; G. A. Loveland, Observer, Weather Bureau, assistant.*

#### NEVADA.

**Temperature.**—The mean was 2.7 below the normal; maximum, 115, at Belleville, 5th; minimum, 30, at Sunnyside, 12th, and at Elko, 28th.

**Precipitation.**—The average was 0.14 above the normal; greatest monthly, 0.67, at Monitor Ranch; least monthly, 0.00, at a number of stations.—*Prof. Charles W. Friend, Carson City, director; F. A. Carpenter, Observer, Weather Bureau, assistant.*

#### NEW ENGLAND.

**Temperature.**—The mean was 0.7 above the normal; maximum, 102, at Lawrence, 25th, and at Taunton(d), 29th; minimum, 24, at West Milan, 5th; greatest monthly range, 61, at Stratford; least monthly range, 29, at Nantucket.

**Precipitation.**—The average was 1.03 below the normal; greatest monthly, 7.66, at Burlington; least monthly, 0.91, at Stratford and Nantucket.

**Wind.**—Prevailing direction, southwest.—*J. Warren Smith, Observer, Weather Bureau, Boston, Mass., director.*

#### NEW JERSEY.

**Temperature.**—The mean was 0.2 below the normal; maximum, 105, at Plainfield, Camden, and New Brunswick, 26th; minimum, 44, at Dover, 17th, and at Allaire and Franklinville, 18th; greatest monthly range, 56, at Plainfield and Franklinville; least monthly range, 33, at Asbury Park and Atlantic City.

**Precipitation.**—The average was 0.29 below the normal; greatest monthly, 7.96, at Franklinville; least monthly, 2.38, at Hanover.

**Wind.**—Prevailing direction, southwest.—*E. W. McGann, Observer, Weather Bureau, New Brunswick, director.*

## NEW MEXICO.

*Temperature.*—Maximum, 105, at Coolidge, 2d, at Embudo, 15th, and at Los Lunas, 13th; minimum, 30, at Coolidge, 25th, and at Halls Peak, 4th; greatest monthly range, 75, at Coolidge; least monthly range, 33, at Santa Fe.

*Precipitation.*—Greatest monthly, 3.92, at Chama; least monthly, 0.20, at Coolidge.

*Wind.*—Prevailing directions, west and southwest.—*H. B. Hersey, Observer, Weather Bureau, Santa Fe, director.*

## NEW YORK.

*Temperature.*—The mean was 0.2 below the normal; maximum, 93, at West Point, 27th, and at Baldwinsville, 29th; minimum, 36, at South Kortright, 17th; greatest monthly range, 59, at West Point; least monthly range, 34, at Buffalo.

*Precipitation.*—The average was 0.61 above the normal; greatest monthly, 8.44, at Hess Road Station; least monthly, 1.98, at Liberty.

*Wind.*—Prevailing direction, southwest.—*Prof. E. A. Fuertes, Dean of the College of Civil Engineering, Cornell University, Ithaca, director; R. M. Hardinge, Observer, Weather Bureau, assistant.*

## NORTH CAROLINA.

Crops were injured during the first half of the month by excessive rains.

*Temperature.*—The mean was 1.8 below the normal; maximum, 103, at Chapel Hill, 25th and 28th, and at Southern Pines, 28th, 30th, and 31st; greatest monthly range, 53, at Southern Pines; least monthly range, 22, at Hatteras.

*Precipitation.*—The average was 0.33 above the normal; greatest monthly, 10.83, at Southern Pines; least monthly, 2.37, at Soapstone Mount.

*Wind.*—Prevailing direction, southwest.—*Dr. Herbert B. Battle, Raleigh, director; C. F. von Herrmann, Observer, Weather Bureau, assistant.*

## NORTH DAKOTA.

*Temperature.*—The mean was 0.3 above the normal; maximum, 108, at Medora, 22d; minimum, 31, at Woodbridge, 3d; greatest monthly range, 74, at Medora; least monthly range, 39, at Saint Johns.

*Precipitation.*—The average was 0.37 above the normal; greatest monthly, 5.23, at Dawson; least monthly, 1.17, at White Earth.

*Wind.*—Prevailing direction, southeast.—*W. H. Fallon, Observer, Weather Bureau, Bismarck, director.*

## OHIO.

*Temperature.*—The mean was normal; maximum, 103, at Waverly and West Milton, 25th; minimum, 40, at Orangeville, 17th; greatest monthly range, 58, at Kenton; least monthly range, 41, at Marietta.

*Precipitation.*—The average was 0.37 above the normal; greatest monthly, 7.96, at Carrollton; least monthly, 1.36, at Dayton.

*Wind.*—Prevailing direction, southwest.—*Prof. B. F. Thomas, Columbus, director; C. M. Strong, Observer, Weather Bureau, secretary and assistant.*

## OKLAHOMA.

*Temperature.*—Maximum, 112, at Lehigh, 21st; minimum, 49, at Gate City, 4th; greatest monthly range, 59, at Gate City; least monthly range, 30, at Healdton.

*Precipitation.*—Greatest monthly, 4.54, at Purcell; least monthly, 1.15, at Mangum.

*Wind.*—Prevailing direction, south.—*Louis Dorman, Observer, Weather Bureau, Oklahoma City, director.*

## OREGON.

*Temperature.*—Maximum, 105, at Canyon City and Newbridge; minimum, 28, at Crook.

*Precipitation.*—Greatest monthly, 1.13, at Gardiner; least monthly, 0.00, at a number of stations.—*Hon. H. E. Hayes, Master State Grange, Portland, director; B. S. Pague, Local Forecast Official, Weather Bureau, assistant.*

## PENNSYLVANIA.

*Temperature.*—The mean was 0.2 below the normal; maximum, 103, at Hamburg, Quakertown, and Philadelphia, 26th; minimum, 38, at Wellsboro, 5th; greatest monthly range, 58, at Wellsboro; least monthly range, 35, at Lancaster.

*Precipitation.*—The average was about normal; greatest monthly, 8.59, at York; least monthly, 2.15, at Wellsboro.

*Wind.*—Prevailing direction, west.—*Under direction of the Franklin Institute, Philadelphia; H. L. Ball, Observer, Weather Bureau, assistant.*

## SOUTH CAROLINA.

*Temperature.*—Maximum, 102, at Florence, 30th; minimum, 51, at Cheraw, 8th; greatest monthly range, 48, at Cheraw; least monthly range, 27, at Hardeeville.

*Precipitation.*—Greatest monthly, 13.47, at Cheraw; least monthly, 4.29, at Greenwood.

*Wind.*—Prevailing direction, southwest.—*A. P. Butler, Observer, Weather Bureau, Columbia, director.*

## SOUTH DAKOTA.

*Temperature.*—The mean was 0.7 above the normal; maximum, 104, at Alexandria, 20th and 22d; minimum, 35, at Cross, 2d; greatest monthly range, 65, at Parkston; least monthly range, 37, at Ashcroft.

*Precipitation.*—The average was 1.46 below the normal; greatest monthly, 7.76, at Aberdeen; least monthly, 0.33, at Kimball.

*Wind.*—Prevailing direction, southeast.—*S. W. Glenn, Local Forecast Official, Weather Bureau, Huron, director.*

## TENNESSEE WEATHER AND CROP SERVICE.

*Temperature.*—The mean was about normal; maximum, 98, at Dyersburg, 19th and 24th; minimum, 58, at Jacksonboro, 2d, at Greeneville, 8th, and at Springdale, 17th; greatest monthly range, 38, at Springdale; least monthly range, 25, at McMinnville.

*Precipitation.*—The average was 1.79 above the normal; greatest monthly, 10.33, at Jackson; least monthly, 2.07, at Sweetwater.

*Wind.*—Prevailing directions, east and northwest.—*J. B. Marbury, Local Forecast Official, Weather Bureau, Nashville, director.*

## TEXAS.

*Temperature.*—The mean was 0.2 below the normal; maximum, 109, at Fort Hancock, 15th, 16th, and 20th; minimum, 48, at Fort Hancock, 28th; greatest monthly range, 61, at Fort Hancock.

*Precipitation.*—The average was 0.44 below the normal; greatest monthly, 8.49, at Orange; least monthly, 0.00, at Menardville.

*Wind.*—Prevailing direction, southeast.—*D. D. Bryan, Galveston, director; I. M. Cline, Local Forecast Official, Weather Bureau, assistant.*

## UTAH.

*Temperature.*—Maximum, 110, at Saint George, 31st; minimum, 27, at Soldiers Summit, 1st and 16th; greatest monthly range, 68, at Soldiers Summit; least monthly range, 41, at Salt Lake City.

*Precipitation.*—Greatest monthly, 1.03, at Mount Carmel; least monthly, 0.00, at Stockton.

*Wind.*—Prevailing direction, southeast.—*G. N. Salisbury, Observer, Weather Bureau, Salt Lake City, director.*

## VIRGINIA.

*Temperature.*—Maximum, 106, at Nottoway, 27th; minimum, 43, at Dale Enterprise, 5th; greatest monthly range, 57, at Nottoway; least monthly range, 32, at Hot Springs and Warm Springs.

*Precipitation.*—Greatest monthly, 8.27, at Norfolk; least monthly, 0.79, at Mossing Ford.

*Wind.*—Prevailing direction, southwest.—*Dr. E. A. Craighill, Lynchburg, director; J. N. Ryker, Observer, Weather Bureau, assistant.*

## WASHINGTON.

Hot weather and dry winds injured wheat east of the Cascades.

*Temperature.*—The mean was 1.2 below the normal; maximum, 104, at Fort Spokane, 31st; minimum, 35, at Centerville and Rosalia, 7th, and at Waterville, 7th and 12th; greatest monthly range, 64, at Fort Spokane; least monthly range, 24, at Olga.

*Precipitation.*—The average was 0.08 above the normal; greatest monthly, 2.58, at Eatonville; least monthly, 0.00, at Fort Simcoe.

*Wind.*—Prevailing direction, southwest.—*E. B. Olney, Observer, Weather Bureau, Olympia, director.*

## WEST VIRGINIA.

*Temperature.*—Maximum, 98, at Martinsburg, 26th and 27th, at Moorefield, 24th and 26th, at Spencer, 25th, and at Charleston, 26th; minimum, 41, at Davis, 6th; greatest monthly range, 51, at Davis; least monthly range, 34, at Danville.

*Precipitation.*—Greatest monthly, 7.20, at Central Station; least monthly, 1.21, at Piedmont.

*Wind.*—Prevailing direction, southwest.—*W. W. Dent, Observer, Weather Bureau, Parkersburg, director.*

## WISCONSIN.

*Temperature.*—The mean was about 1.0 above the normal except in the west-central counties, where it was 1.0 to 2.0 below; maximum, 100, at Centuria, 22d; minimum, 38, at Crandon, 4th, at Florence, 15th, and at Plover, 16th.

*Precipitation.*—Greatest monthly, 9.90, at Hudson; least monthly, 1.14, at Oconomowoc.

*Wind.*—Prevailing direction, southwest.—*W. L. Moore, Local Forecast Official, Weather Bureau, Milwaukee, director.*

## WYOMING.

*Temperature.*—Maximum, 112, at Casper, 6th; minimum, 31, at Saratoga, 3d; greatest monthly range, 64, at Casper and Wheatland; least monthly range, 47, at Lander.

*Precipitation.*—Greatest monthly, 2.20, at Lander; least monthly, trace, at Saratoga.

*Wind.*—Prevailing direction, west.—*E. M. Ravenscraft, Observer, Weather Bureau, Cheyenne, director.*